Shri Vile Parle Kelavani Mandal's
DWARKADAS J. SANGHVI COLLEGE OF ENGINEERING
(Autonomous College Affiliated to the University of Mumbai)
NAAC Accredited with "A" Grade (CGPA : 3.18)

Academic Year (2022-23)
Year: B. Tech Semester: VII

Program: B. Tech. (Computer Engg.) **Max. Marks: 75**
Subject: Predictive Modelling **Time: 10:30 am to 1:30 pm**
Date:06/01/2023 **Duration: 3 Hours**

REGULAR EXAMINATION

Instructions: Candidates should read carefully the instructions printed on the question paper and on the cover page of the Answer Book, which is provided for their use.

(1) This question paper contains 2 pages.
(2) All Questions are Compulsory.
(3) All questions carry equal marks.
(4) Answer to each new question is to be started on a fresh page.
(5) Figures in the brackets on the right indicate full marks.
(6) Assume suitable data wherever required, but justify it.
(7) Draw the neat labelled diagrams, wherever necessary.

Question No.		Max. Marks
Q1 (a)	Explain in detail ANY TWO metrics for Model Assessment.	[05]
Q1 (b)	i. Justify which predictive model is appropriate for Credit Risk Case Study. Assume relevant input data. ii.Explain Chi-Square Tests of Association in detail. **OR** i.Explain the role of Ensemble Modelling in Predictions. Illustrate with an example. ii.Describe the SEMMA palette in SAS.	[05] [05] [05] [05]
Q2 (a)	Describe and compare the models generated by DMNeural, AutoNeural and Dmine Regression. **OR** Describe and demonstrate the steps in building decision trees with appropriate example.	[10] [10]
Q2 (b)	Explain Iteration Plot with an example.	[05]
Q3 (a)	Explain kurtosis and its significance. .	[05]

Q3 (b)	i. Explain the steps in SAS with relevant dataset to examine data distribution. ii. Explain are the metrics to measure the central tendency of data. **OR** i. Explain Collinearity with an example. ii. Explain Confidence Interval for the Mean with relevant example. What does the CI of mean signify about the dataset?	[05] [05] [05] [05]
Q4 (a)	What is the purpose of Hypothesis testing? Explain how t-test can be performed in SAS and what inference can be made from it? **OR** i. Explain Multiple Logistic Regression with an example. ii. Illustrate with example box plot and Whisker plot.	[08] [04] [04]
Q4 (b)	Explain Correlation Analysis in detail with relevant example.	[07]
Q5	Explain briefly [ANY THREE]. i. Boosting ii. Principal Component Analysis iii. Overfitting, Underfitting and Generalization iv.Skewness	 [05] [05] [05] [05]